

A NEW SPECIES OF *CENOCCOELIUS* FROM COSTA RICA
(HYMENOPTERA: BRACONIDAE)

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Abstract.—A new species, *Cenocoelius andirae*, is described and is associated with *Andira* fruits in Costa Rica.

The specimens described below were collected by Daniel Janzen in Costa Rica during his studies of plant-insect relationships. They were found ovipositing in fruits of the leguminous tree, *Andira inermis*. All known species of *Cenocoelius* are parasitic on the larvae of Coleoptera. The beetles whose larvae live in the fruits and seeds of *Andira* in Costa Rica are *Cleogonus armatus* Champion, *C. rubetra* (F.), an as yet undetermined *Cleogonus* species, and *Apion samson* Sharp (D. R. Whitehead, personal communication). Whitehead believes that the species of *Cenocoelius* described below probably attacks all three species of *Cleogonus*, but he is not sure about *Apion*. Janzen has observed no other insect as a potential parasitoid of *Cleogonus* larvae in *Andira* fruits.

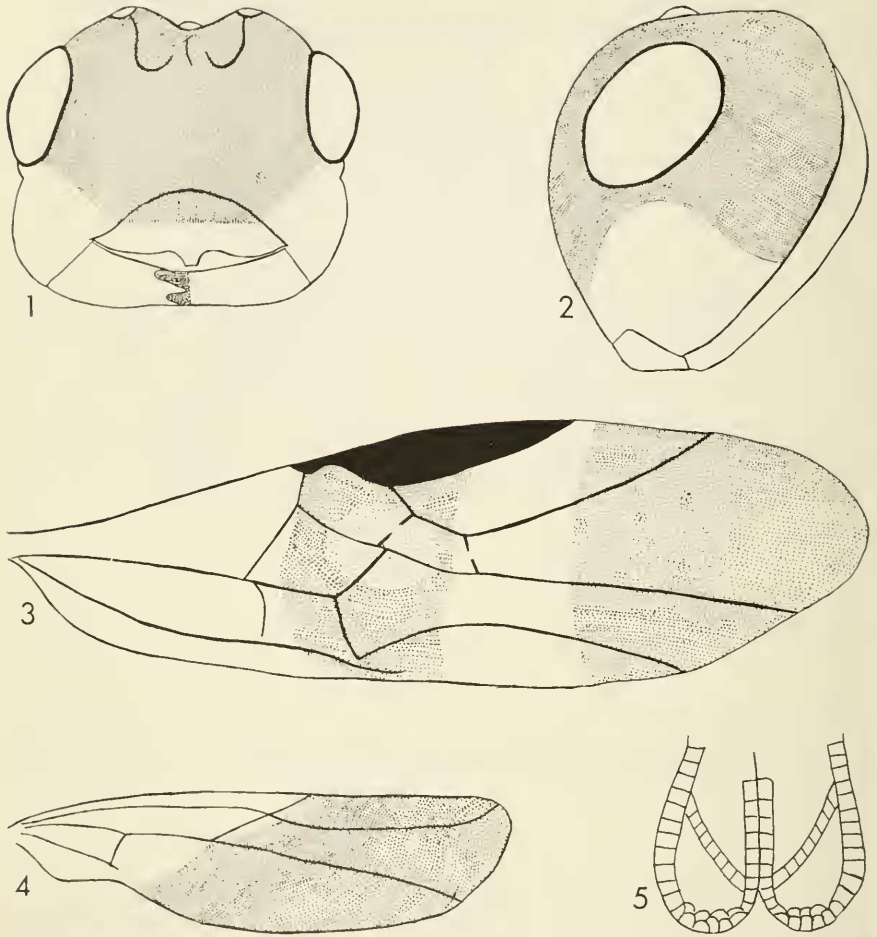
Cenocoelius andirae Saffer, new species
(Figs. 1-4)

Holotype.—Female, Costa Rica, Guanacaste Prov., Finca La Pacífica (about 7 km NW Cañas), 16-VII-75, found ovipositing in *Andira inermis* fruits (Janzen).

Description of type female.—Body length 9.2 mm; length of forewing 8.7 mm.

Head.—Antennae broken; right with 21, left with 26 flagellomeres remaining; scape 2.9× as long as wide at apex, 1.81× as long as basal flagellomere; face very weakly longitudinally rugose, closely punctate; clypeus sparsely punctate; apex of clypeus with large, median tooth (Fig. 1); malar space and temples smooth with a few punctures; mandible base wide, 0.96× malar space; anterior vertex with broad, shallow, median, longitudinal depression, area on either side and slightly posterior to depression swollen; eye width 0.97× temple width, eye height 1.26× malar space; median ocellus located in a concavity; margins of temples and vertex adjacent to occipital carina smooth; outer margin of occipital carina considerably raised (Fig. 2).

Thorax.—Most of propleuron finely reticulately foveolate, the anterior end smooth; anterior, declivous part of prescutum with 3 smooth, longitudinal stripes; area lateral to stripes closely punctate; 2 strong, lateral, transverse carinae between anterior declivous and posterior parts of pre-



Figs. 1-5. *Cenocoelius andirac*. 1, front view of head, showing color pattern and large median tooth at apex of clypeus. 2, lateral view of head, showing color pattern. 3, forewing, showing color pattern. 4, hindwing, showing color pattern. 5, front view of proepisternum, showing diagonal row of foveae which bisects each lobe.

scutum; anterior and median part of posterior prescutum foveolate, the remainder smoother with a few punctures; scutum and scutellum smooth with very sparse punctation; lateral borders of scutum anteriorly weakly foveolate, posteriorly smooth; thorax width $1.86\times$ prescutum length; notauli foveolate, the foveae large; scutellar furrow with 6 foveae; sternaulus percurrent, composed almost entirely of a single row of foveae, the anterior end

irregularly foveolate; most of proepisternum sparsely punctate, each side with a short diagonal row of foveae between anterior $\frac{2}{3}$ and posterior $\frac{1}{4}$ (Fig. 5); extreme posterior end of proepisternum reticulately foveolate; propodeum foveolate, with a lateral, longitudinal row of foveae on each side; area ventral to longitudinal row more finely reticulately foveolate than remainder of propodeum; dorsal propodeum length $0.37\times$ thorax width; forewing with recurrent vein entering basal tip of 2nd cubital cell, nervulus slightly postfurcal; hindwing with 1st segment of mediella $1.47\times$ 2nd segment; hind tibia length $2.55\times$ hind basitarsus; last segment of hind tarsus $1.07\times$ 2nd segment; inner mid-tibial spur $1.06\times$ outer; inner hind-tibial spur $1.75\times$ outer; all tarsal claws with large, distinct basal tooth.

Abdomen.—First gastric segment smooth and shining, with very slightly embossed median area defined anteriorly by extremely short, lateral longitudinal carinae; 1st gastric tergum $1.27\times$ as long as wide at apex (not including epipleura); remainder of gaster smooth; ovipositor sheath $1.11\times$ as long as forewing.

Color.—Most of head, including antennae, black; malar space yellow; sharp diagonal line between black and yellow areas on each side of face, extending from base of eye to lower lateral edge of clypeus (Fig. 1); upper part of clypeus black, lower part yellow; mandibles yellow with upper lateral edge and apices black; occipital carina and palpi yellow; proepisternum black; remainder of thorax red, with small, black triangular sclerite beneath each forewing tegula; propodeum red; forewing yellowish red from tegula to base of 1st cubital cell, brown to apex of stigma, yellowish red to distal $\frac{1}{3}$ of radial cell, brown to apex (Fig. 3); hindwing with basal $\frac{2}{3}$ yellowish red, apical $\frac{1}{3}$ brown; irregular diagonal line in hindwing between yellowish red and brown areas (Fig. 4); stigma brown; color of venation corresponds to wing color; fore and mid coxae brown with reddish patches, remainder of fore and mid legs red with apices of last tarsal segments brown; hind legs black with yellow patches on coxae; hind tibiae densely covered with red hairs; gaster red with black patch on apex; ovipositor sheath black; ovipositor dark red.

Variation of paratype females.—Structure and sculpture: Antennae with 37 flagellomeres; scape $2.6\text{--}3.25\times$ as long as wide at apex, $1.53\text{--}2.43\times$ as long as basal flagellomere; mandible base $0.67\text{--}0.93\times$ malar space; eye width $0.84\text{--}1.0\times$ temple width; eye height $1.07\text{--}1.36\times$ malar space; posterior prescutum with anterior median area foveolate, the remainder smooth; lateral borders of scutum weakly foveolate; thorax width $1.85\text{--}2.18\times$ prescutum length; scutellar furrow with 5–7 foveae; sternaulus composed entirely of a single row of foveae; proepisternum posterior to diagonal rows of foveae transversely rugose and foveolate; lateral propodeum below longitudinal rows of foveae punctate, much smoother than remainder of

propodeum; dorsal propodeum length $0.33-0.45 \times$ thorax width; nervulus postfurcal; hindwing with 1st segment of mediella $1.18-1.56 \times$ 2nd segment; hind tibia length $1.58-3.2 \times$ hind basitarsus; last segment of hind tarsus $1.13-1.4 \times$ 2nd segment; inner mid-tibial spur $1.08-1.27 \times$ outer, inner hind-tibial spur $1.5-1.8 \times$ outer.

Color: Most of clypeus yellow with brown patches at base; lateral pronotum red with anterior dorsal part brown or black; mesopleuron completely black or with anterior $\frac{2}{3}$ black, the remainder red; most of mesosternum black with median reddish area; posterior prescutum and scutum black; scutellar furrow black; fore and mid legs: coxae red with brown shading, brown, or black, trochanters black, sometimes with red patches, femora black or red with large brown patches, tibiae red or almost entirely black with red apices, tarsi completely red with brown patches or with last segment black; gaster red with black apex.

Male.—Unknown.

Paratypes.—9 ♀ ♀, same data as holotype. Holotype and paratypes deposited in United States National Museum.

Discussion.—*Cenocoelius andirae* may be distinguished from other *Cenocoelius* by the following combination of characteristics: Color pattern of the face and wings (Figs. 1-4), the sculpture of the proepisternum, each lobe of which has a diagonal row of foveae (Fig. 5), the very large apical tooth of the clypeus, the broad based mandibles, and the extensively raised occipital carina.

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